Using Project Reviews
to Your (Learning) Advantage

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We'll Share a Conversation about Learning-Based Project Reviews.

Intent

- Share a concept of "learning based project review"
  - Descriptive, not prescriptive

- Begin a conversation

- Use this session to develop strategies to make project reviews more productive

- Rethink about our project review and learning practices

- Invite you to be part of the conversation

- Working session

Agenda

- *Why is learning important to projects?*
  - *Success rates*

- Who are we learning with?
  - CPRM, LSP/KSC, GSFC

- What is guiding us?
  - Assumptions

- What can we learn together today?
  - Questions

- What can we do to improve our reviews?
  - Improvement process

- How can you participate?
  - Think about and share reflections

Why is this Work Important? Project Success Rates

	1994	1996	1998	2000
Succeeded	16%	27%	26%	28%
Failed	31%	40%	28%	23%
Challenged	53%	33%	46%	49%

Standish Group's Chaos Studies (Johnson, 2001)

The questions become:
- Why are we so challenged?
- How can we become better?

Why is this Work Important? Lessons Learned

	Percent of Project Managers
What do you produce a lesson learned about?	
Tasks that failed to meet expectations or minor adjustments/problems	40%
Tasks that met expectations	36%
Tasks that had major problems	62%
If you produce a lesson learned, when do you produce a lesson learned?	
Throughout the project as the opportunity arises	31%
Throughout the project at regular review meetings	26%
At the end of the project	69%
How do you know what to produce a lesson learned about?	
Compare the actual results with the original or baseline plan for all tasks	43%
The things they remember	45%

(Kotnour, 1999)

Why is this Work Important?
Learning is More than Lessons Learned

- Premise:
  - Recognize the importance and value of lessons learned
  - Projects are already learning (mission success shows this)—just raising awareness, appreciation, and viewing from a different perspective

- How can we help the project team learn better?
  - Why do we build lessons learned primarily at the end?
    - What are we missing along the way?
    - Are we learning too late?
    - Why do we view lessons learned as an extra expense at the end of the project?
  - Why do we view lessons learned as a formal process?
    - How does this view restrict our thinking and impact?
  - How can we view our existing processes and tools from a learning perspective?

How do we make learning an everyday occurrence?

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We Are Partnering with NASA to Develop New Ideas.

- NASA Center for Program/Project Management Research

- Launch Services Program—KSC

- GSFC

NASA/USRA's Center for Program/Project Management Research Supported this Research.

- **Purpose:**
  - Engage universities in world-class research that addresses significant problems in the discipline of Program/Project Management – with emphasis on NASA's aeronautics and space program challenges

- **Objectives:**
  - Exercise leadership to significantly advance the state of knowledge of program and project management
  - Develop a cadre of professionals to conduct world-class research and serve as a major resource for project management knowledge
  - Improve collaboration and data exchange between project management professionals
  - Facilitate hands-on project management training and developmental opportunities
  - Provide an atmosphere for open examination of innovative program and project management concepts
  - Promote the direct application of CPMR research to real NASA program and project management challenges

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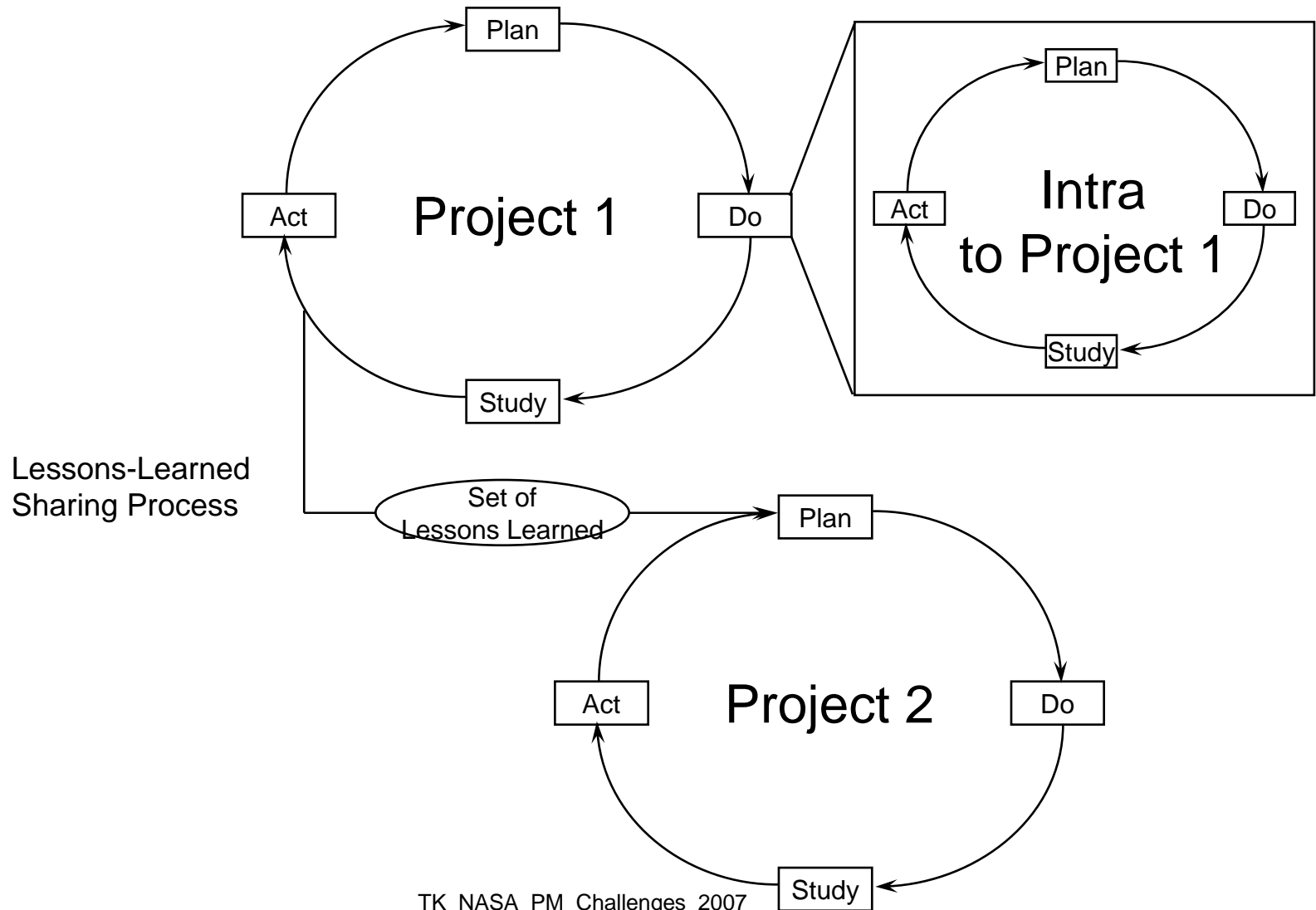 - Think about and share reflections

We're Understanding How to Make Learning within Reviews Routine.

Organizational Learning

PBLR

Project Management

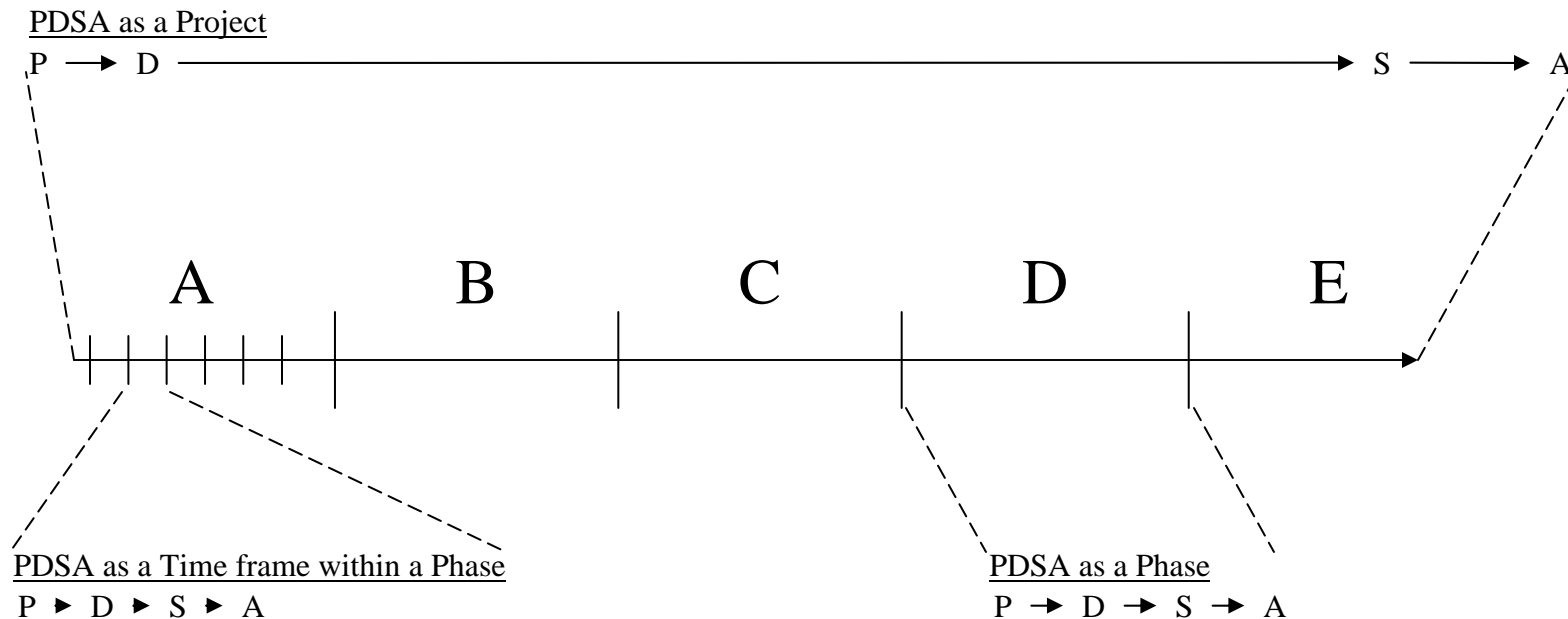Learning, Project, and Organizational Performance
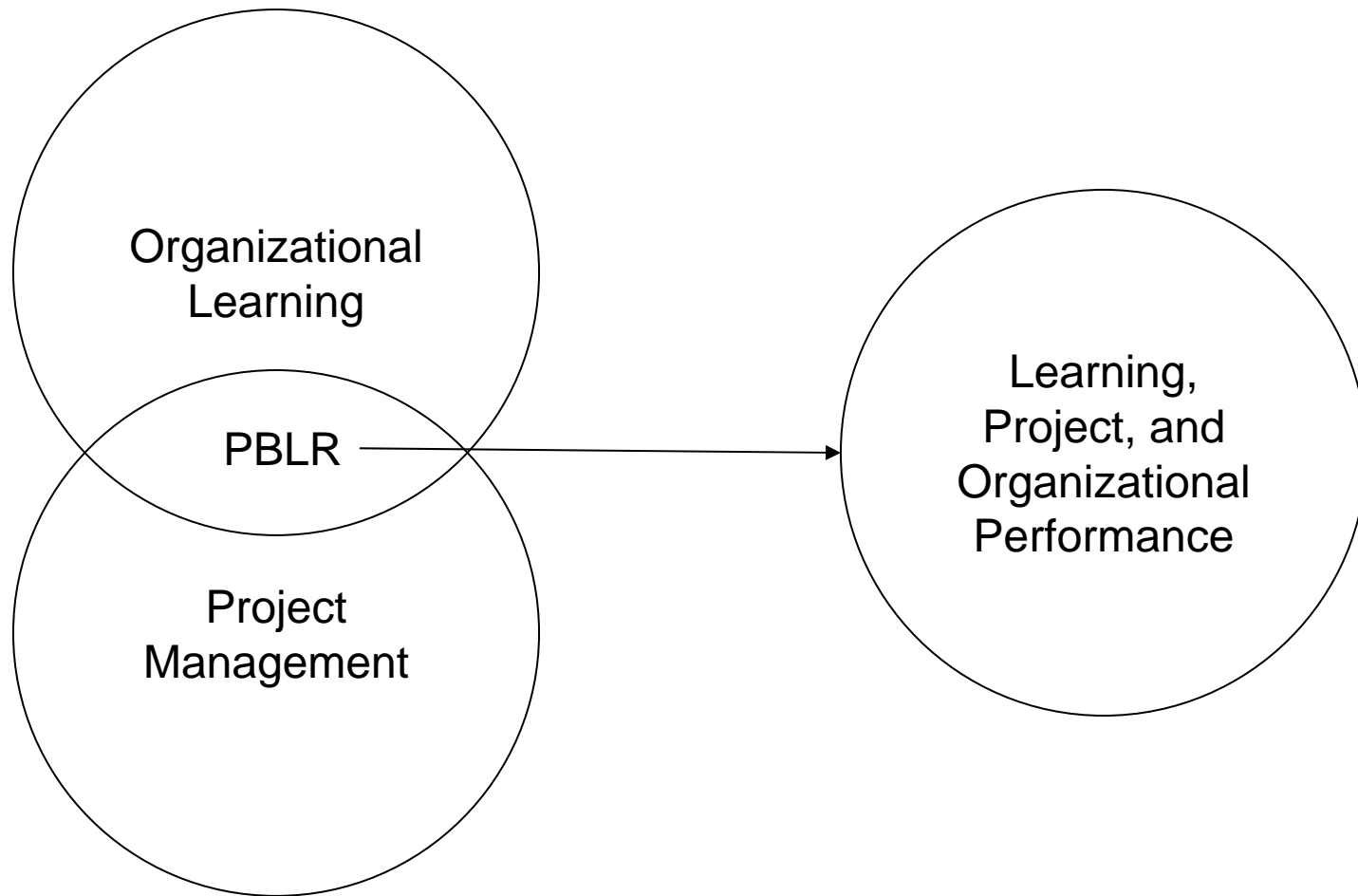
Assumptions

1. We learn through out a project.

2. Reviews are connected to the project delivery process.

3. Reviews helps us learn about different things.

4. Reviews provide many benefits.

5. We move from one level of learning to the next based on performance.

6. Reviews must be aligned to desired learning.

7. Formal reviews are a vital part of the process.

8. The right questions drive the right conversations and reviews.

Assumption 1: We Learn Throughout a Project.

Lessons-Learned Sharing Process

Set of Lessons Learned

Project 1: Plan → Do → Study → Act (cycle)

Intra to Project 1: Plan → Do → Study → Act (cycle)

Project 2: Plan → Do → Study → Act (cycle)

Assumption 2: Reviews are Connected to the Project Delivery Process.

PDSA as a Project

P → D ———————————————————→ S → A

A   B   C   D   E

PDSA as a Time frame within a Phase

P ▸ D ▸ S ▸ A

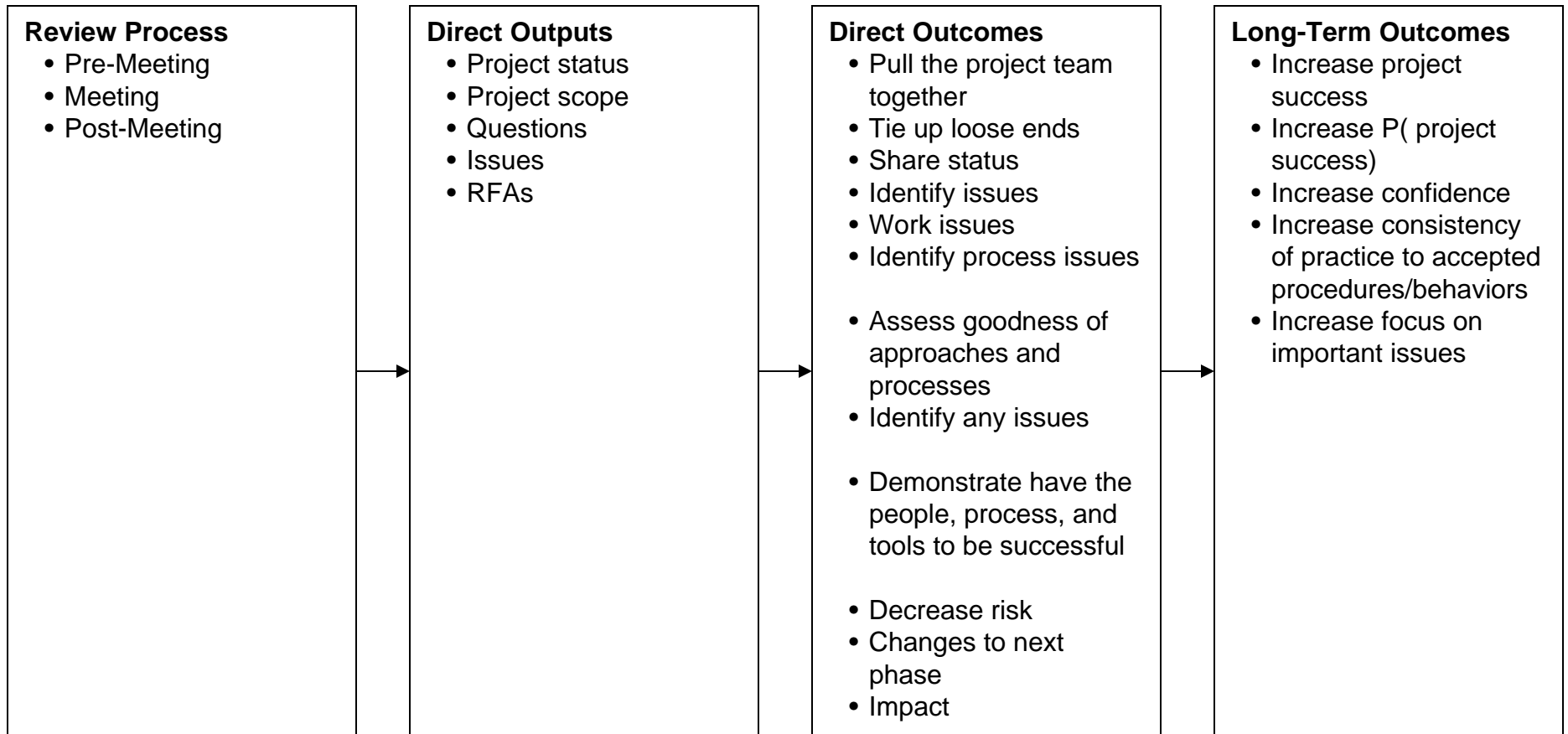PDSA as a Phase

P → D → S → A

Types of Reviews
1. Initial review to determine if able to proceed
2. Phase gate
3. End of project—post mortem
4. Structured learning
5. Routine (e.g., weekly internal project review)
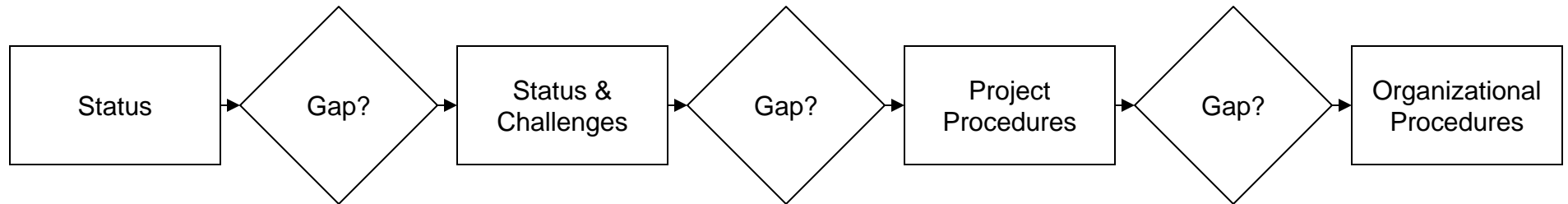6. Routine (e.g., monthly external project review)

Assumption 3: Reviews Helps us Learn about Different Things.

Level of Review	Process Consistency	Project Status	Project Status & Challenges	Project Procedure Improvement	Organizational Procedure Improvement
Description	• Process review • Understand how well project is meeting process requirements	• Status • Understand the project status • Share facts about the project • Gather good news and "bad" news	• Status and control • Makes changes to project tasks, schedule, resources • Adjust the project to evolving circumstances • Focus on managing by exception	• Improve current project practices	• Improve the organizations core processes, capabilities, and tools
Benefit	• Identifies process gaps to improve within the project • Drives consistency	• Preparation readies team for learning and provides data for higher-level learning	• Drives out areas to focus on	• Change practices, processes, and tools within the project	• Change practices, processes, and tools within the organization—across all projects
Example Processes and Tools	• Checklists	• Formal monthly project reviews	• Formal monthly project reviews and the resulting working groups	• Risk management • Engineering review boards • Working groups • Informal monthly management review—focus on shared understanding and conversation	• Risk management • Engineering review boards • Working groups • Ad hoc lesson learned sessions

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Assumption 4: Reviews Provide Many Benefits.

Review Process
- Pre-Meeting
- Meeting
- Post-Meeting

Direct Outputs
- Project status
- Project scope
- Questions
- Issues
- RFAs

Direct Outcomes
- Pull the project team together
- Tie up loose ends
- Share status
- Identify issues
- Work issues
- Identify process issues

- Assess goodness of approaches and processes
- Identify any issues

- Demonstrate have the people, process, and tools to be successful

- Decrease risk
- Changes to next phase
- Impact

Long-Term Outcomes
- Increase project success
- Increase P(project success)
- Increase confidence
- Increase consistency of practice to accepted procedures/behaviors
- Increase focus on important issues

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Assumption 5: We Move from One Level of Learning to the Next Based on Performance.

Status → Gap? → Status & Challenges → Gap? → Project Procedures → Gap? → Organizational Procedures

Assumption 6: Reviews must be Aligned to Desired Learning.

Learning Role / Review Type	Process Consistency	Project Status	Project Status & Challenges	Project Procedure Improvement	Organizational Procedure Improvement
Initial review to determine if ready to proceed		✓	✓		
End of phase/gate	✓	✓	✓	✓	
End of project—post mortem				✓	✓
Structured Learning	✓	✓	✓	✓	✓
Routine (weekly, monthly internal project review)		✓	✓		
Routine (weekly, monthly external project review)	✓	✓	✓		

Example: Nature of Conversations

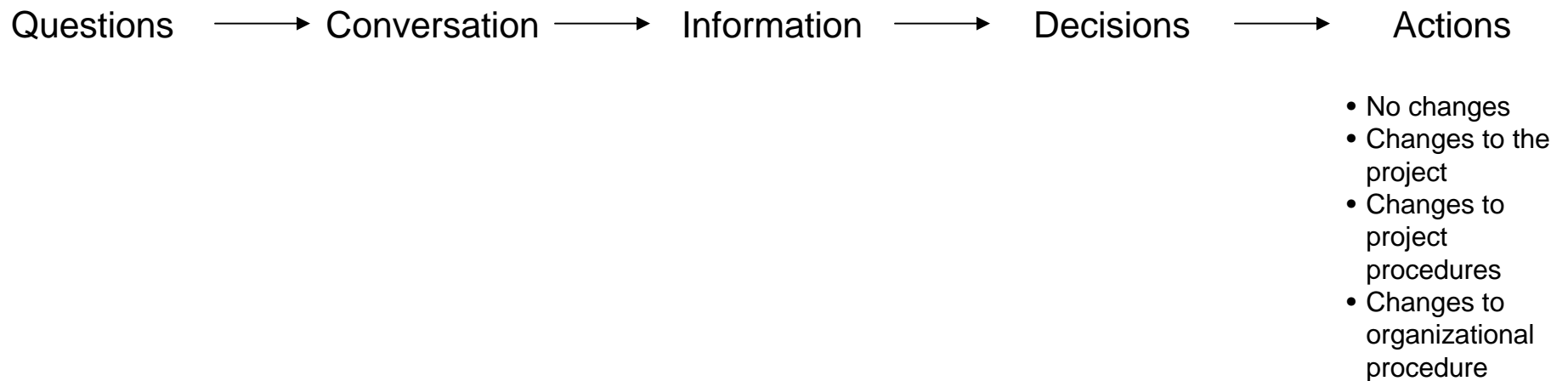|	Technical	Systems Engineering	Project Management
Content	**Presenter** • What is the technical approach? • What are the technical trades? • What are the technical risks? **Panel Questions** • How well is the technical approach? • What are the risks with the technical approach?	**Presenter** • What are the requirements? **Panel Questions** • How well are the requirements defined? • What are the risks with the requirements?	**Presenter** • What are the cost, schedule requirements? • Who is the team? **Panel Questions** • How well is the project plan defined? • What are the risks with the project plan?
Process	**Presenter** • How will it be designed, built, integrated, and tested? **Panel Questions** • How well is the process? • What are the risks with the	**Presenter** • How will the requirements be identified, allocated, traced, verified, and validated? **Panel Questions** • How well is the systems engineering process? • What are the risks with the systems engineering approach?	**Presenter** • How will the project be managed? **Panel Questions** • How well is the project management process? • What are the risks for the project management approach?

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Example: Nature of Conversations

	Technical	Systems Engineering	Project Management	Safety & Mission Assurance
Content	414	106	40	13
Process	52	12	6	14

Assumption 7: Formal Reviews are a Vital Part of the Process.

- Formal reviews are needed because the day-to-day life of the project team creates a focus on
    - Problem solving, crisis, or risk management focus
    - The next milestone
    - Individual components

- Formal reviews are
    - A conversation with people
    - A meeting
    - A needed opportunity for the project team to step back and see the big picture

- Formal reviews create an environment to focus on
    - Seeing the big picture
    - Gaining new perspectives
    - Systemic issues and challenges in process and approach

Assumption 8: The Right Questions Drive the Right Conversations and Reviews.

Questions $\longrightarrow$ Conversation $\longrightarrow$ Information $\longrightarrow$ Decisions $\longrightarrow$ Actions

- No changes
- Changes to the project
- Changes to project procedures
- Changes to organizational procedure

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What questions do we need to ask?

Level of Review / Type of Review	Process Consistency	Project Status	Project Status & Challenges	Project Procedure Improvement	Organizational Procedure Improvement
"Initiate" Review					
Phase Gate					
Post-Mortem (Lesson Learned)					
Structured Learning					
Routine (Weekly, Monthly) Internal					
Routine (Weekly, Monthly) External					

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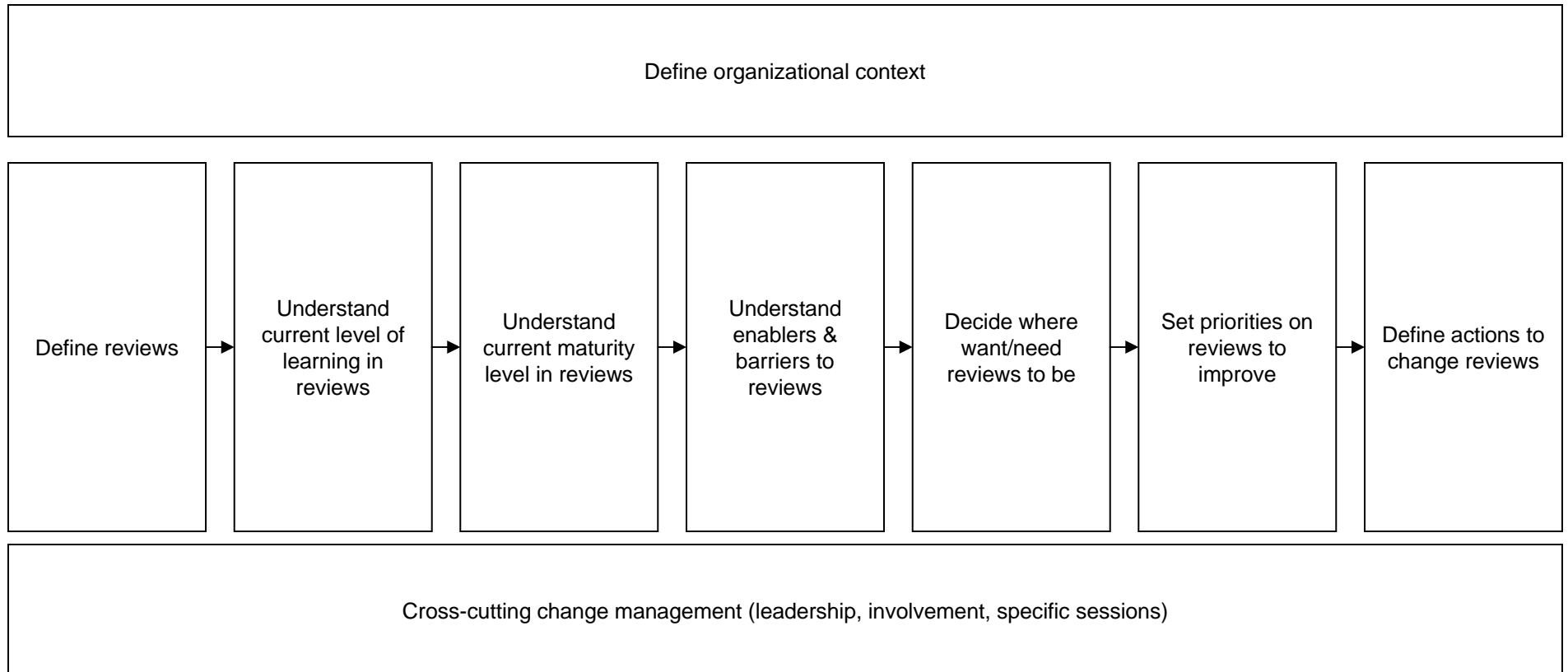# We'll Share a Conversation about Learning-Based Project Reviews.

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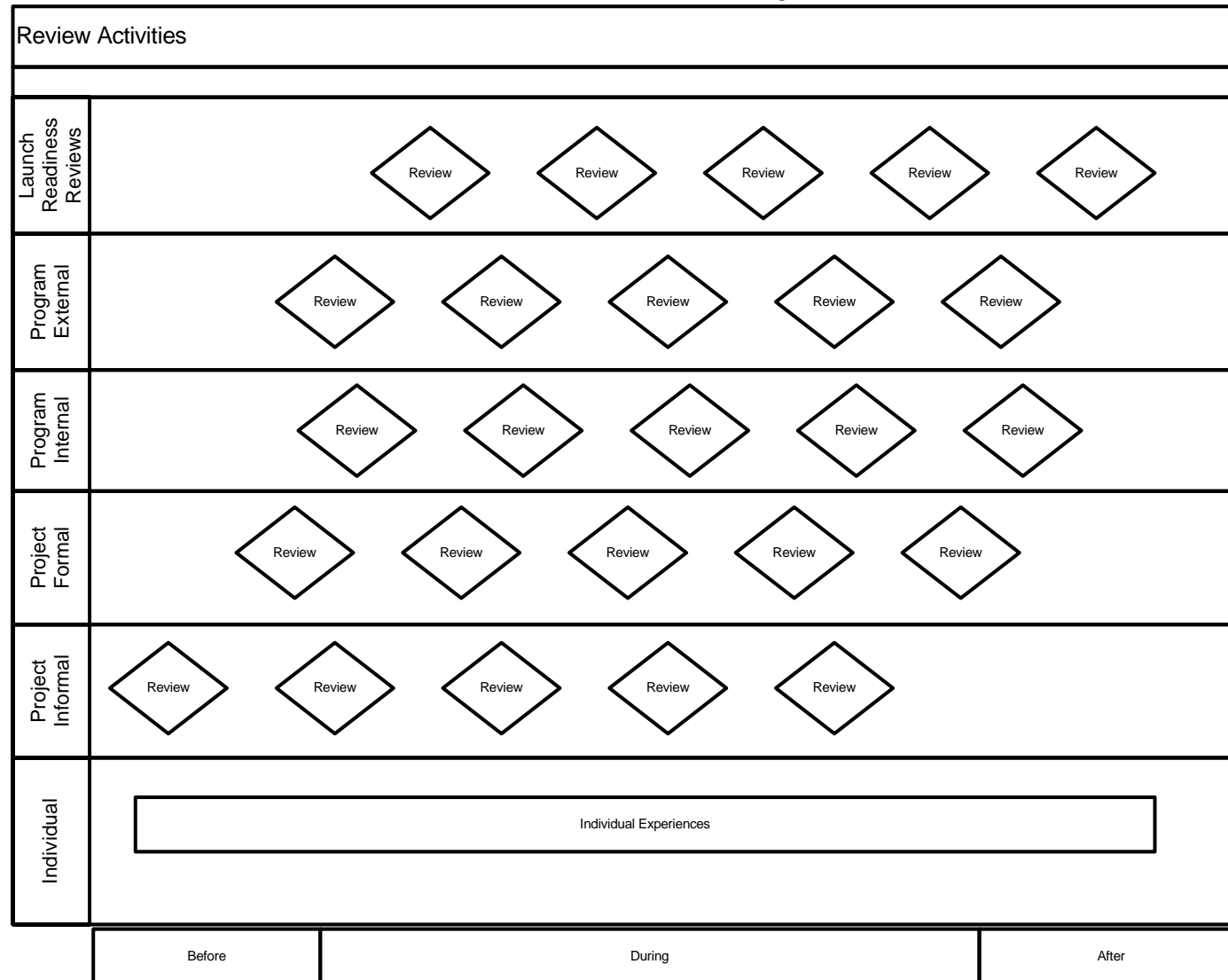- Invite you to be part of the conversation

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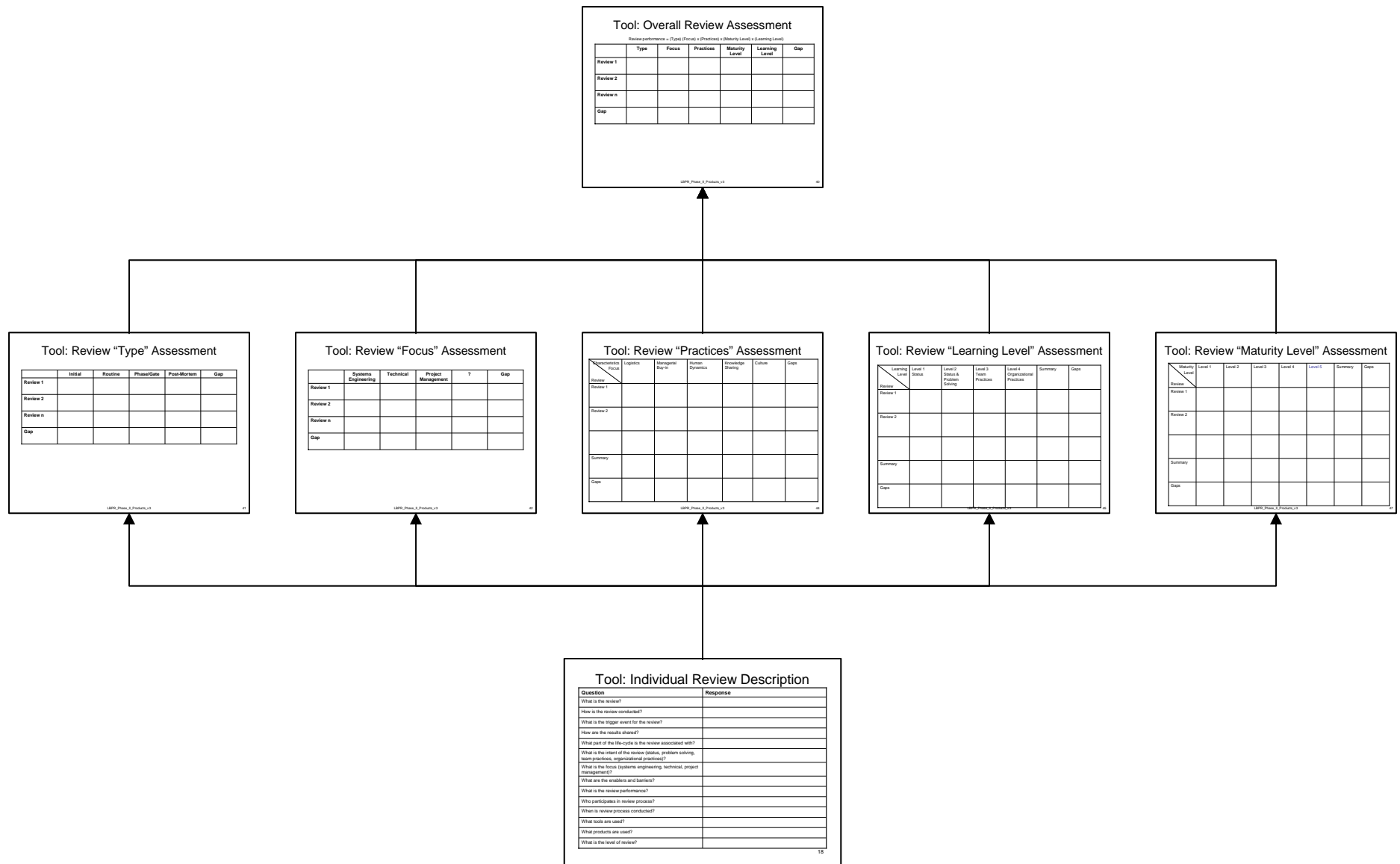
Process to Improve the Review Process

Define organizational context

Define reviews → Understand current level of learning in reviews → Understand current maturity level in reviews → Understand enablers & barriers to reviews → Decide where want/need reviews to be → Set priorities on reviews to improve → Define actions to change reviews

Cross-cutting change management (leadership, involvement, specific sessions)

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The Reviews are a "System of Learning".

We need to understand how to better connect reviews and learning.

Tools to Use to Improve the Review Process.

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Questions to Leave With

- How do we now learn in our projects?
- What energy are we devoting to learning?
- How well are we managing our enablers and barriers to learning?

- What do we need to start, stop, continue doing to drive learning in our projects?

You are Invited to Participate!

- Why
  - Help improve the ideas
  - Help improve NASA

- What
  - Share observations
  - Share processes and tools you use
  - Share names of people with "best practices"
  - Participate in on-line survey

- How
  - Contact me
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  - tkotnour@mail.ucf.edu

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